

This is my title

by

My name

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Abstract

This is my abstract.

Acknowledgments

These are my acknowledgments.

Statement of Originality

This is my statement of originality.

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Chapter 1

Introduction

Physics really begins with Newton. Newton's second law is given by

$$\vec{F}_{\text{net}} = m\vec{a} \tag{1.1}$$

where $\vec{F}_{\text{net}}$ is the net force acting on an object, m is the mass of the object, and $\vec{a}$ is the acceleration of the object. Equation [\(1.1\)](#) truly is fascinating.

Chapter 2

The Standard Model

This is my chapter about the Standard Model. In section [2.1](#), the field content of the Standard Model is discussed.

2.1 Field content of the Standard Model

The field content of the Standard model is summarized in table [2.1](#).

	$SU(3)_C$	$SU(2)_L$	$U(1)_Y$	Spin
H	1	2	1/2	0
Q_L^m	3	2	1/6	1/2
U_R^m	3	1	2/3	1/2
D_R^m	3	1	-1/3	1/2
L_L^m	1	2	-1/2	1/2
E_R^m	1	1	-1	1/2
B_μ	1	1	0	1
W_μ^a	1	3	0	1
G_μ^b	8	1	0	1

Table 2.1: Field content of the Standard Model. The index m goes from 1 to 3, a from 1 to 3, and b from 1 to 8. The L and R next to a spin 1/2 field represents its chirality.

2.1.1 An example subsection

This is an example of a subsection.

Chapter 3

Supersymmetry

This is my chapter about supersymmetry. See Ref. [1] for a review of supersymmetry. Supersymmetry enforces the cancellation of quadratically divergent contributions to the masses of scalar particles. See figure 3.1 for an example of such cancellations.

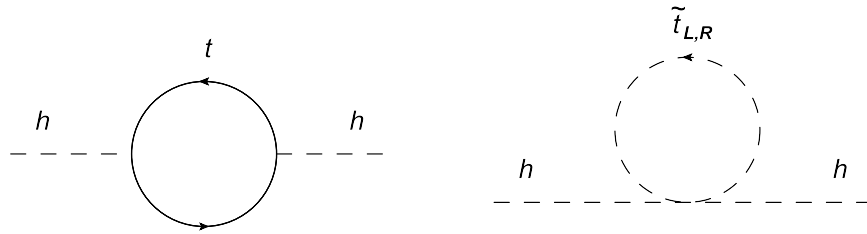


Figure 3.1: Contribution of the top and its partners to the Higgs mass. The quadratic divergences cancel.

Chapter 4

Conclusion

These are my conclusions.

Appendix A

Conventions

These are the conventions and notations used in this thesis.

References

- [1] S. P. Martin, *A Supersymmetry primer*, [hep-ph/9709356](#). [Adv. Ser. Direct. High Energy Phys.18,1(1998)].